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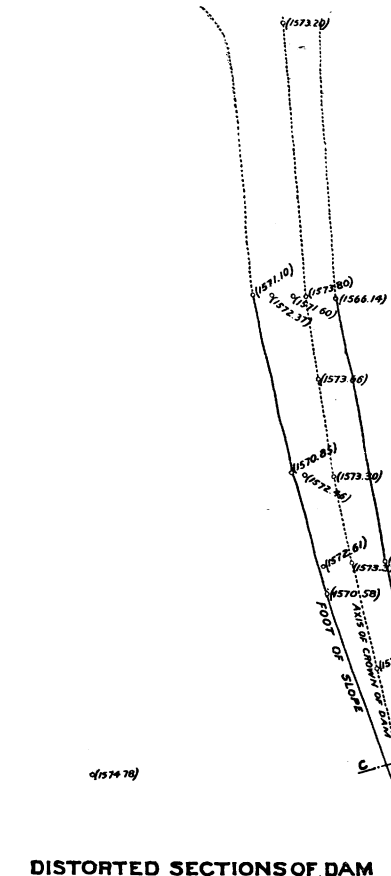
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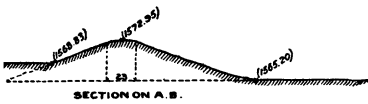
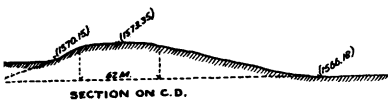
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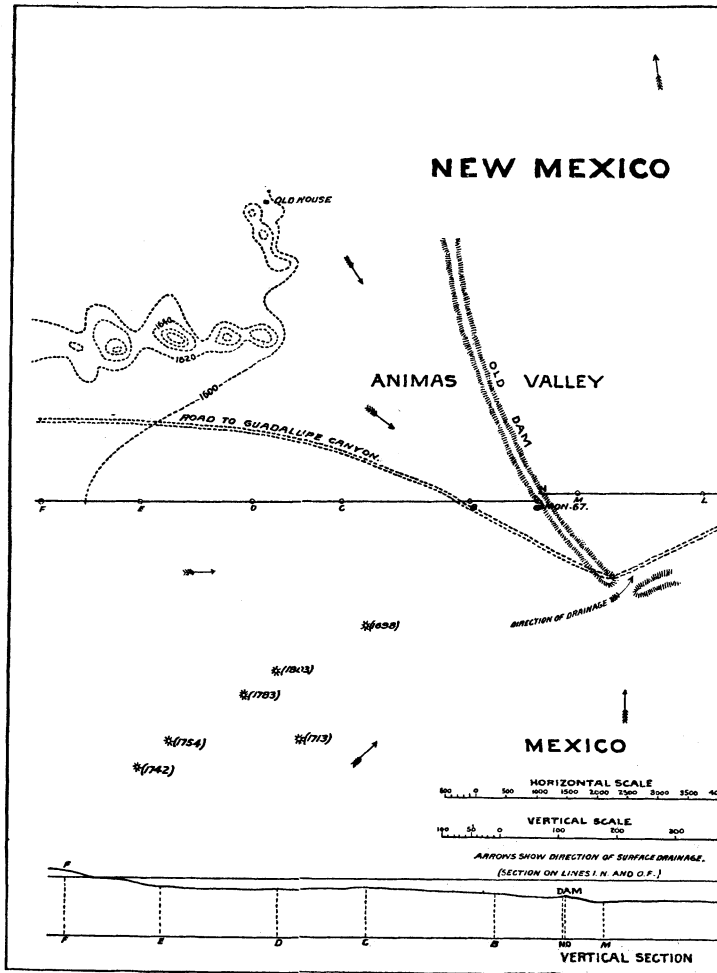
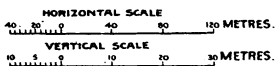
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DISTORTED SECTIONS OF DAM

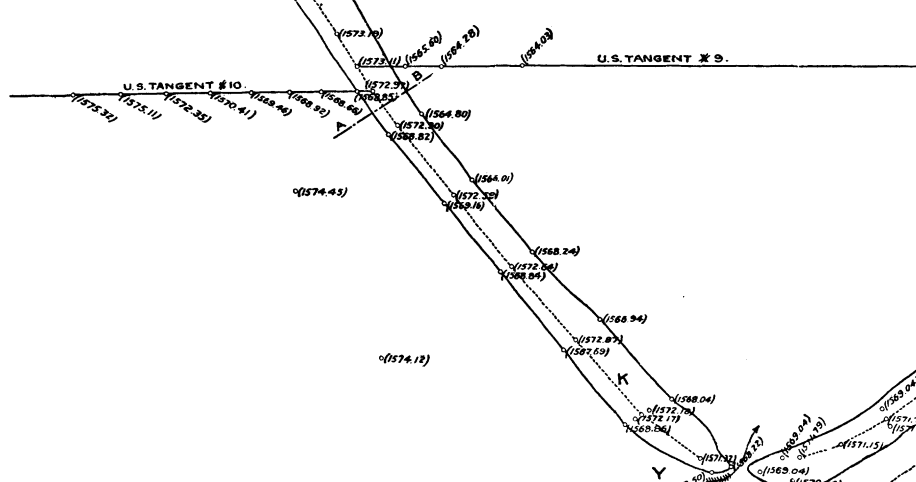


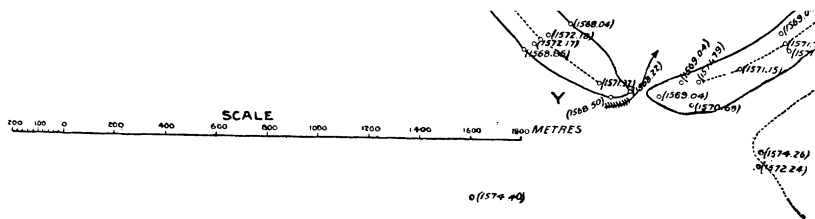
SCALE OF SECTIONS

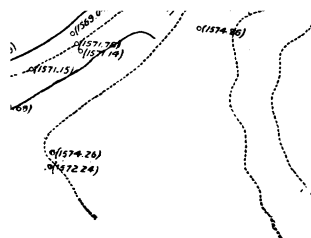


OLD DAM IN AN

FIGURES IN BRACKETS DENOTE ELEVATIONS ABOVE M.S. LEVEL FROM A LINE OF LEVELS CARRIED BY THE U.S. SECTION OF THE PACIFIC. POINTS MARKED THUS ○ WERE ACCURATELY LOCATED







A GIGANTIC EARTHWORK IN NEW MEXICO

CAPTAIN D. D. GAILLARD, U. S. A.

During the progress of the survey of the international boundary line, United States and Mexico, in July, 1892, there was encountered in Animas valley, Grant county, New Mexico, about 11 miles east of the point where the boundary line between New Mexico and Arizona intersects the international boundary line, a peculiar topographic feature, which appeared to be artificial, and if so was probably a prehistoric dam.

I ordered the topographic party under my charge to locate the so-called dam and to determine the elevation of its crest and foot slopes, lack of time preventing a more extended survey. Their notes have now been plotted by me for the first time, and the result is shown in the accompanying illustration. The following brief account of the surrounding region and of the dam itself may throw some light on the subject.

Description of the Region

This portion of Animas valley lies between the San Luis mountains on the east and the Guadalupe mountains on the west. It is practically a basin here, but a few miles north of the boundary line the low part of the valley narrows and the drainage is to the north; about three to four miles south of the boundary line is a "divide" separating the waters flowing south into Cajon Bonito from those flowing north into Animas valley.

The annual rainfall of the region is now about 12 to 14 inches, more than half of which occurs between July 1 and September 15, while the evaporation is probably at least 75 inches per annum. The climate is delightful and the region abounds in game, although in Cajon Bonito, six or eight miles south of the boundary line, is the only perennial stream for many miles.

The greater part of the valley is covered with an alluvial soil, apparently of great fertility. The amount of alluvium diminishes to the westward of the dam and the soil contains more gravel as the foothills of the Guadalupe mountains are approached.

No deposits of sand were observed within several miles of the dam. Even after the heavy rains of midsummer the water stands only in broad shallow pools in the lower parts of the valley.

Description of the Dam

Measured along the axis of its crest, the dam is 5.5 miles in length, while its crest is from 22 to 24 feet higher than the foot of its eastern slope. At the point where the change of direction in the dam occurs is a breach through which passes the drainage of a watershed of about 25 to 30 square miles. Were this breach repaired and the adjacent portions of the dam brought up to the prevailing height, it would be capable of forming a reservoir with an average length of five miles and a width of one-quarter of a mile. The maximum depth would be about 20 feet and the mean depth about 10 feet. The area would be one and one-quarter square miles only. Practically all of this water could be drawn out at the point where the breach occurs and used to irrigate the portions of the valley to the eastward.

The dam is composed, as judged by surface indications only, of the stiff sedimentary material of the surrounding valley. Its slopes and crest are regular and covered during the rainy season with a luxuriant growth of grass, but are entirely bare of trees or bushes. It has the appearance of great age, and there is now no evidence either of irrigating ditches or of excavations from which material has been obtained. As shown in the distorted sections, the foot of the western slope is from zero to 4.96 meters (average 2.92 meters) higher than that of the eastern slope, apparently due to deposits which in the course of time have been collected by the dam and have covered the lower portions of the original western slope. If such is the case, deposits might also account for the absence of evidences of irrigating ditches and excavations and for the present small width of the body of water which would be impounded were the breach in the dam repaired and the reservoir filled.

At Y a small pool of water remains for several days after rains and is eagerly sought by hundreds of cattle, which have trampled down the slopes in the vicinity, so that the latter are somewhat irregular.

The materials of the dam, the direction of its axis, the regularity of its slopes, the uniformity in elevation of its crest (for

3.5 miles north of *K* there is an extreme variation of but 0.76 meters in elevation), the fact that it joins high ground at both ends, and its location at a point where it seems very unlikely that it could have been caused by natural agencies, all seemed to indicate that this remarkable earthwork was of artificial construction, and such was the impression of almost every official of our party; but, on the other hand, so gigantic is the work—requiring, if the western slope once continued as indicated by the dotted line in the distorted cross-sections, the handling of from 8,000,000 to 10,000,000 cubic yards of material—that it seems almost impossible that it could have been the work of human hands. Again, if constructed for a dam, one is at once struck by its extremely flat slopes and by the immense linear development of dam constructed to impound such a comparatively small volume of water.

One of our rodmen stated that from the summit of a small hill he thought he observed a continuation of this dam, or possibly another dam, several miles to the northwest and north of the one I have described. I myself thought I could faintly distinguish some such feature about eight miles north of monument 67.

[NOTE.—That the interesting structure described by Captain Gaillard is of artificial character will scarcely be doubted by any one acquainted with the remains of the extensive works of irrigation farther westward, in Salado and Gila valleys, Arizona. Here may readily be traced the distinct outlines of numerous canals of prehistoric origin, varying in width from five to twenty-five feet and in length from two or three to ten miles. See "Prehistoric Irrigation in Arizona," *American Anthropologist*, vol. vi, p. 323.—F. W. H.]

NEW DISCOVERIES IN EGYPT—THE TOMB OF QUEEN NOUB-HOTEP.—Mr Morgan recently gave to the *Académie des Inscriptions et Belles-lettres* an interesting description of the recent discovery of a royal tomb in the pyramid of Dahchour. He said that "on the 19th of April I came across a door in the excavations, giving access to a long arched passage." The door was opened with all necessary precautions, and exposed to view the various objects placed there by the priests of the twelfth dynasty or by the family of the dead. There were vases of clay still containing the slime of the water of the Nile; here pieces of embalmed flesh; farther on plates of dried viands. In an angle we found two coffers—one

containing alabaster vases of perfume, carefully engraved with hieratic characters; the other, sceptres, canes, a mirror, and arrows with their barbs in an astonishing state of preservation. It was almost impossible to determine whether this was the tomb of a man or woman. It contained arms, as well as objects of the toilet. The only indication we could find was the seal used in closing the coffer of perfumes; it bore the name of the family of the king Tesch-Senbet-f. When all the numerous objects found had been sketched in their respective positions we began to open the sarcophagus. The stone being lifted disclosed a wooden coffin covered with gold leaf. An inscription in gold extended the whole length of the lid, giving the name and the title of the deceased, the Princess Noub-Hotep-ta Khroudil. The outer case of the coffin was also ornamented with gold leaf, and was of natural wood, with the bands of gold bearing the inscriptions lined out with a trace of green paint. The mummy had suffered very much from humidity, and nothing remained but a mass of bones and jewelry, inclosed in the ruins of the plaster envelope, which had been entirely gilded. The objects inclosed had never been disturbed. At the left were the canes, the sceptres, and the flagellum, the curious instrument frequently seen in the bas-reliefs of the temples, but never before found in so complete a condition. Upon the head were placed a diadem of silver incrustated with stones, a serpent (*uraeus*), and a head of a vulture in gold. Upon the breast I found a collar of gold ornamented with fifty pendants, incrustated, and finished at each end with golden hawks' heads of natural size. At the waist was a gold-ornamented dagger, and by the arms and feet golden bracelets, ornamented with pearls, cornelian, and Egyptian emeralds. The head of the mummy was, as usual, turned to the north. At the left of the feet was the *caisse à canopes*, gilded like the coffin and covered with texts. Among the titles of the Princess Noub-Hotep it has never been mentioned that she had been a queen. I, however, found in her tomb all the attributes of royalty.—*Le Temps, Paris*.